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ART 34 AMDT

CLAIMS:

1. A magnetic valve including a collar surrounding and defining a port and a plug
movable from a first position within the port, in which the port is wholly closed by the
5 plug, to a second position out of the port, in which the port is not wholly closed, and in
which the plug and collar are magnetically attracted such that in the first position the plug
is magnetically retained within the port.
2. A valve as claimed in claim 1, in which a magnetic field is generated by the
10 plug.
3. A valve as claimed in claim 1, in which a magnetic field is generated by the
collar.
- 15 4. A valve as claimed in claim 2 or 3, in which a permanent magnet is the source of
the magnetic field.
5. A valve as claimed in claim 4, in which the collar includes a plurality of
permanent magnets disposed around the port.
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6. A valve as claimed in claim 1, in which a side of the plug has a convex shape
which helps to prevent material collecting on that side of the plug.
7. A valve as claimed in claim 1, and including a limiter depending away from the
25 collar which can engage the plug to limit the travel of the plug away from the collar in a
first direction.
8. A valve as claimed in claim 1, and including a stop which prevents the plug
being moved from the first position in a second direction.
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9. A valve mechanism including a valve as claimed in any preceding claim and an
actuator to operate the valve, the actuator including a member having a free end, in which

when the member is driven in a first direction, the free end engages a side of the plug to move the plug from the first to the second position thereby opening the valve.

10. A valve mechanism as claimed in claim 9, in which the free end and the plug are
5 magnetically attracted, such that the plug is retained by the member when in the second position.

11. A valve mechanism as claimed in claim 9, in which a side of the free end in a
direction away from the free end has a convex shape which helps to prevent material
10 collecting on that side of the free end.

12. A valve mechanism as claimed in claim 9, in which the cross-sectional shape of
the free end and the cross sectional shape of the plug in a plane parallel to the plane of the
port are the same.

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13. A container having a valve as claimed in any of claims 1 to 8.

14. A method of operating a magnetic valve having a collar defining a port and a
plug magnetically retained in the port, the method including the steps of engaging a free
20 end of an actuator member with a side of the plug and driving the plug in a first direction
out of the port.

15. A method of handling a material using a container as claimed in claim 13, the
method including the steps of presenting the container oriented with the valve upwards to
25 an actuator;

opening the valve with the actuator;

transferring the material into the container;

closing the valve;

inverting the orientation of the container to present the valve downwards to an
30 actuator;

and opening the valve with the actuator.

16. A method as claimed in claim 15, in which the material is hazardous.

17. A method as claimed in claim 16, in which the material is radioactive.

5 18. A valve substantially as hereinbefore described with reference to the accompanying drawings.

19. A valve mechanism substantially as hereinbefore described with reference to the accompanying drawings.

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20. A container substantially as hereinbefore described with reference to the accompanying drawings.